

Q. What dosage of KI should be administered?

A. The KI tablets provided under the MDPH program contain 130 milligrams of KI. The Department of Public Health advises that, in an emergency, it is safe for children at school or day care centers to take this dosage. This dose is safe and well within the recommended therapeutic range of KI for other indications. The blocking effect of iodide on the thyroid lasts only a few days and any suppressive effect of KI on thyroid function has been shown to be minimal, even in young children. FDA's position is that the overall benefits of KI far exceed the risks of KI overdosing, especially in children.

Q. How often should KI be taken?

A. Administered KI is effective for about 24 hours. Once individuals are removed from the areas affected by the release, there is no need to continue taking KI.

Q. Is there a shelf life for KI?

A. The shelf life approved by FDA for KI is now seven years. However, if properly stored (protected from air, heat, light and moisture), KI can maintain its potency for many years without significant degradation. Information on shelf-life extension is available at www.mass.gov/dph/rcp.

Q. Does one need a prescription to obtain KI?

A. No. FDA approved the distribution of KI for prophylactic use as an over-the-counter drug.

Q. Can KI be purchased at local pharmacies?

A. Despite FDA's approval to distribute it over-the-counter, most pharmacies do not have it for sale over-the-counter. Individuals can purchase KI over the Internet.

Additional information

Massachusetts Department of Public Health, Radiation Control Program
617-242-3035

For information on KI distribution within your community, contact your local Board of Health

Radiation Control Program, MDPH <http://www.state.ma.us/dph/rcp>

Nuclear Regulatory Commission <http://www.nrc.gov>

Food and Drug Administration <http://www.fda.gov>

Centers for Disease Control and Prevention

<http://www.bt.cdc.gov/radiation/KI.asp>



Use of Potassium Iodide

During Radiological Emergencies

Information Booklet for Communities on

Cape Ann, Cape Cod and the Islands

Bureau of Environmental Health · Radiation Control Program

Massachusetts Department of Public Health

August 2013



This information booklet is directed to residents outside the emergency planning zone (EPZ) of a nuclear power plant who may be exposed to radiation and have been provided with potassium iodide or KI. In December 2001 the Food and Drug Administration (FDA) issued recommendations for the administration of potassium iodide (KI) to the general public as a supplement to evacuation and sheltering during a radiological emergency. **As of 2002, Massachusetts distributes KI to non-EPZ communities on Cape Cod, the Islands and Cape Ann as required by M.G.L. Ch. 111, Sec. 5K.**

The questions and answers contained within this booklet will provide information on KI's protective effects, dosage, and distribution in your community.

Q. What is potassium iodide and what is it used for?

A. Potassium iodide (KI) is a chemical compound that can be used to protect the thyroid gland from possible radiation injury caused by radioactive iodine (radioiodine). Some radiological emergencies may release large amounts of radioiodine to the environment. Since iodine concentrates in the thyroid gland, inhalation or ingestion of food contaminated with the radioiodine can cause health effects to the thyroid, including an increased risk of developing thyroid cancer. Thyroid cancer is curable in most cases, but taking measures that reduce the chance of developing cancer is still preferable.

Q. How does KI work?

A. Taking KI saturates the thyroid gland with stable (non-radioactive) iodine. This step prevents or reduces the amount of radioiodine that can be taken up by the thyroid.

Q. What age group is at the highest risk from exposure to radioiodine?

A. Children are at risk of developing health effects related to radiation exposure. A significant increase in the incidence of thyroid cancer among children in Belarus, Ukraine and Russia was observed following exposure to radioiodine related to the Chernobyl accident.

Q. When should KI be taken?

A. To be most effective, KI should be taken before or shortly after exposure to radioiodine. If taken three to four hours after exposure, it would still reduce the uptake of radioiodine by the thyroid; however, its effectiveness would be reduced.

Q. How will KI be distributed to communities?

A. KI was distributed to Cape Cod and the Islands and to Cape Ann communities through local Boards of Health. During an actual emergency, Boards of Health or MDPH designated emergency preparedness coalitions outside affected areas may set up emergency dispensing sites for their communities to distribute KI.

Q. How will I know if I should take KI?

In the unlikely event that radioactive material from a nuclear power plant emergency poses a risk to communities on the Cape and Islands or Cape Ann and you are told to evacuate, you may be advised to take KI.

Q. Is KI effective in all radiation emergencies?

A. While KI is effective in reducing the radiation dose to the thyroid that could result from the intake of radioiodine, it does not protect other organs or tissues.

Q. Does KI have side effects?

A. Generally health effects in adults and children over the age of one include gastrointestinal distress and rash in a very small percentage of individuals.

Q. Should any precautions be considered if an individual has KI sensitivity?

A. Due to possible side effects, individuals with known iodine sensitivity or who have conditions associated with increased risk of iodine hypersensitivity should avoid taking KI. Individuals should consult their physicians to determine if they have iodine sensitivity or conditions that may increase their risk of developing iodine hypersensitivity. Such information should be obtained prior to an emergency, since, to be effective, KI needs to be taken within a narrow time frame of exposure.

Q. Are there health concerns associated with children less than one year of age and KI? What about pregnant or breastfeeding women?

A. Newborn infants (less than 1 month old) who receive more than one dose of KI are at particular risk for developing a condition known as hypothyroidism (thyroid levels that are too low.) Infants and pregnant or breastfeeding women should take KI, but should also prioritize other protective measures such as sheltering and evacuation.

Q. What is the "Emergency Planning Zone" or EPZ?

A. The EPZ is the area around a nuclear power plant reaching out to ten miles. Emergency planning focuses on this specific area, based on assessments by the Environmental Protection Agency (EPA) on the impact of an emergency in such a facility. The ten mile zone includes all areas where levels of radioactive materials released during an emergency may be of concern to human health within hours to days after an accident at a nuclear power station.

Q. Why was potassium iodide (KI) distributed to Cape and Islands and Cape Ann communities?

In 2002, the Massachusetts legislature passed a statute requiring the distribution of KI to municipalities on the Cape and Islands, and to Cape Ann communities. MDPH replenished KI stockpiles in these communities in August 2013.